**Local fluctuations in the relaxation rate in a glassy system** RAJIB
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RACIO E. CASTILLO, Ohio University — We numerically study the equilibrium
dynamics of a glass-forming binary hard-sphere mixture, for different packing frac-
tions. We extract a correlator that probes the integrated fluctuations in the local
relaxation rate in the system. We find that the strength of this correlator at $t = \tau_\alpha$
(the $\alpha$-relaxation time) grows with packing fraction approximately as a power of $\tau_\alpha$.
We also find that for a fixed packing fraction, the correlator grows as a power of
time, for very long times, with an exponent that depends on the packing fraction.
This exponent probes the time correlations of the relaxation rate fluctuations. We
find that the exponent is around 3 for very low packing fractions, and gradually
decreases to a value below 2 as the glass transition is approached. We conclude that
a description of fluctuations in terms of local relaxation rates is only applicable at
long times and for packing fractions close to the glass transition.

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